



9.35 BOROUGH OF ROCKAWAY

This section presents the jurisdictional annex for the Borough of Rockaway. The annex includes a general overview of the Borough of Rockaway; an assessment of the Borough of Rockaway’s risk, vulnerability, and mitigation capabilities; and a prioritized action plan to implement prior to a disaster to reduce future losses and achieve greater resilience to natural hazards.

9.35.1 Hazard Mitigation Planning Team

The following individuals are the Borough of Rockaway’s identified HMP update primary and alternate points of contact and NFIP Floodplain Administrator.

Table 9.35-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name / Title: Conrad Pepperman, Police Chief, OEM Director Address: 33 Maple Avenue, Rockaway, New Jersey 07866 Phone Number: 973-627-1314, ext. 201 Email: cpepperman@rockawayboropd.org	Name / Title: Russel Greuter, OEM Coordinator Address: 33 Maple Avenue, Rockaway, New Jersey 07866 Phone Number: 973-627-2000 Email: greuterrb@rockawayborough.org
NFIP Floodplain Administrator	
Name / Title: Paul Ferriero, Town Engineer Address: 33 Maple Avenue, Rockaway, New Jersey 07866 Phone Number: 908-879-6209 Email: paul.ferriero@ferrieroengineering.org	

9.35.2 Borough of Rockaway Profile

According to the U.S. Census, the Borough has a total area of 2.12 square miles, of which 2.07 square miles is land and 0.05 square miles is water. The Borough is located in central Morris County and is adjacent to Denville on its eastern and north-eastern border and Rockaway Township to the north, west, and south.

According to the U.S. Census, the 2010 population for the Borough of Rockaway was 6,438. The estimated 2017 population was 6,473, a 0.5 percent increase from the 2010 Census. Data from the 2017 U.S. Census American Community Survey indicate that 3.5 percent of the population is 5 years of age or younger and 12.3 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.35.3 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction’s overall risk to its hazards of concern. Table 9.35-2 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. Figures 9.35-1 and 9.35-2 at the end of this annex illustrate the geographically-delineated hazard areas and the location of potential new development.



Table 9.35-2. Recent and Expected Future Development

Type of Development	2015	2016	2017	2018	2019
Number of Building Permits for New Construction Issued Since the Previous HMP					
Single Family	3	1	0	1	0
Multi-Family	0	0	0	1	0
Other (commercial, mixed-use, etc.)	1	0	5	1	1
Property or Development Name	Type of Development	# of Units / Structures	Location address and/or block and lot	Known Hazard Zone(s)*	Description / Status of Development
Recent Major Development and Infrastructure from 2015 to Present					
Ciptas	Open structure w/roof	1	311 W. Main St.	-	Completed
Breslauer Contractors	Single family home	3	44,48,52 Broad St.	-	Completed
CLC Builders	Single family home	1	35 Addison Ave.	-	Completed
KTB Realties	Commercial bldg.	2	311 W. Main St.	-	Completed
Hometown Development	Medical bldg.	1	66 E. Main St.	-	Completed
Morris Hills HS	Field house	1	520 W. Main St.	-	Completed
E & C Enterprises	Medical bldg.	1	350 Rt. 46	-	Completed
T3 Innovations	Single family home	1	72 Mountain Rd.	-	Completed
Ronald Horacek	Residential garage (replaced)	1	62 Union St.	-	Completed
Gus Hollstein	Garden apt.	3	Rockwood Dr.	-	Completed
Moretrench	Commercial bldg.	1	100 Stickle Ave.	-	Completed
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
Mill Lane Realty	Multi family	18	60 E. Main St.	-	In process
ESW Realty	Mixed use	6 apt/3 offices	76 Franklin Ave.	-	In process
Rockaway Commons	Mixed use	19	204 Rt. 46	-	Awaiting permits
Richard Sommerkorn	Single family home	1	155 W. Main St.	-	Permits in review

* Only location-specific hazard zones or vulnerabilities identified.

9.35.4 Capability Assessment

The Borough of Rockaway performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of fiscal capabilities.





- An assessment of education and outreach capabilities.
- Information on National Flood Insurance Program (NFIP) compliance.
- Classification under various community mitigation programs.
- The community’s adaptive capacity for the impacts of climate change.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration. Areas with current mitigation integration are summarized below. The Borough of Rockaway identified specific integration activities that will be incorporated into municipal procedures are included in the updated mitigation strategy.

PLANNING, LEGAL AND REGULATORY CAPABILITY

The table below summarizes the legal and regulatory tools that are available to the Borough of Rockaway and where hazard mitigation has been integrated.

Table 9.35-3. Planning, Legal and Regulatory Capability

Legal and Regulatory Capability					
	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated/Allowed	Has this been integrated? If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Codes, Ordinances, & Requirements					
Building Code	Yes, 12/9/76, Ord. 17-76	Local and State	Yes	No	No
<i>Comment: State mandated on local level under NJAC 5:23-3.14. International Building Code – New Jersey Edition, 2018, NJAC 5:24-3.14 Adopted 9/3/2019 . State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)</i>					
Zoning Code	Yes, 10/24/96, Ord. 12-96	Local	Yes, if have planning board	Yes	-
<i>Comment: State permissive on local level. [note local ordinance # and date of adoption]. Per State of NJ Municipal Land Use Law (MLUL) L. 1975, s. 2, eff Aug 1, 1976, 40-55D-62: 49. Power to zone, requires all jurisdictions to have current zoning and other land development ordinances after the planning board has adopted the land use element and master plan. Enforced by Land Use Bd., Chapter 172, Sections 172-1 – 172-94; Zoning.</i>					
Subdivisions	Yes, 10/24/96, Ord. 12-96	Local	Yes, if have planning board	Yes	-
<i>Comment: P.L.1975, c.291 (C.40:55D-47): 40:55D-37. Grant of power; referral of proposed ordinance; county planning board approval . Dictated by the Municipal Land Use Law. NJ Statute 40:27-6.2The board of freeholders of any county having a county planning board shall provide for the review of all subdivisions of land within the county by said county planning board and for the approval of those subdivisions affecting county road or drainage facilities as set forth and limited hereinafter in this section. Enforced by Land Use Bd., Chapter 171, Sections 171-1 – 171-13; Requirements for subdivisions.</i>					
Stormwater Management	Yes, 4/13/06, Ord. 12-96	State and Local	Yes	No	No
<i>Comment: See Title 7 of the NJ Administrative Code, N.J.A.C. 7:8. Enforced by GB/Land Use Bd., Chapter 170, Sections 170-36 – 170-36.10; Stormwater control.</i>					
Post-Disaster Recovery	No	-	No	-	-
Comment:					
Real Estate Disclosure	Yes	State	Yes	No	No
<i>Comment: Before signing a contract of sale, all purchasers must receive a New Jersey Public Offering Statement (POS) approved by the New Jersey Real Estate Commission. The POS provides information such as proximity to hospitals, schools,</i>					



Legal and Regulatory Capability					
	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated/Allowed	Has this been integrated? If yes- how? If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
<i>fire and police, as well as any hazards, risks or nuisances in or around the subdivision. Enforced by Division of Consumer Affairs, N.J. A. C. 13:45A-29.1.</i>					
Growth Management	No	Local and State	Yes	No	No
<i>Comment: State Mandated on a municipal level. See Zoning Ordinance ; Also - Plan Endorsement Process via the State Development & Redevelopment Plan provides for the delineation of Growth Areas and Environs; Use of the endorsed plans in the implementation of state environmental regulations makes the Plan Endorsement process a growth management strategy.</i>					
Shoreline Development	No	-	Yes	-	-
<i>Comment: NJ Coastal Area Facility Review Act (N.J.S.A. 13:19) or CAFRA regulates almost all development along the coast for activities including construction, relocation, and enlargement of buildings or structures, and excavation, grading, shore protection structures, and site preparation. This law is implemented through NJ's Coastal Zone Management Rules N.J.A.C. 7:7E-1 et seq.</i>					
Site Plan Review	Yes	Local	Yes	Yes	-
<i>Comment: Dictated by the Municipal Land Use Law which sets forth minimum requirements for plans, etc., timeframes for development review. NJ Statute 40:27-6.2: The board of freeholders of any county having a county planning board shall provide for the review of all subdivisions of land within the county by county planning board and for the approval of those subdivisions affecting county road or drainage facilities. 40:27-6.10: Each municipal clerk shall file with the county planning board a copy of the planning and zoning ordinances of the municipality and shall notify the county planning board of the introduction of any revision or amendment of such an ordinance which affects lands adjoining county roads or other county lands, or lands lying within 200 feet of a municipal boundary, or proposed facilities or public lands shown on the county master plan or official county map. Enforced by Land Use Bd., Chapter 171, Sections 171-14 – 171-20; Requirements for site plans.</i>					
Environmental Protection	No	-	Yes	-	-
<i>Comment: The rules that are utilized by the NJ Department of Environmental Protection and other environmental agencies are codified at Title 7 of the NJ Municipal Administrative Code.</i>					
Flood Damage Prevention	Yes	Local	No	Yes	-
<i>Comment: The NJ State Law Flood Area Control Act (N.J.S.A. 58:16A-52) and the National Flood Control Act of 1968 (NFIP) are state and federal acts to support minimization of flood losses. They do not require local adoption but as enforced by the NJDEP, the floodplain ordinances of each municipality must be reviewed for compliance with these regulations. In addition, participation in the NFIP requires a floodplain ordinance. Enforced by Borough Engineer, Chapter 139A – Flood Damage Prevention.</i>					
Wellhead Protection	No	Local	No	-	-
<i>Comment: Delineation of well head protection areas (WHPAs) is part of the NJ-approved 1991 well head protection plan (WHPP) for public community water supply wells. These are priority areas for efforts to prevent and clean up ground water contamination. Municipalities are empowered to regulate land use, physical facilities and other activities within WHPAs areas, the potential for groundwater contamination can be reduced under the provisions of the New Jersey Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq., which authorizes each municipality to plan and regulate land use to secure a safe and adequate drinking water supply for its residents. Also refer to Safe Drinking Water Regulations (NJAC 7:10-11.7(b)1).</i>					
Emergency Management	No	-	-	-	-
<i>Comment: Per the NJ Civilian Defense and Disaster Control Act (App.A:9_43.2) Counties and municipalities must have written Emergency Operations Plans to be reviewed every 2 years. See Emergency Operations Plans below.</i>					
Climate Change	No	-	-	-	-
<i>Comment:</i>					





Legal and Regulatory Capability					
	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated/Allowed	Has this been integrated? If yes- how? If yes- how? Describe in comments If no - can it be a mitigation action? If yes, add Mitigation Action #.	
Disaster Recovery Ordinance	No	-	-	-	-
<i>Comment:</i>					
Disaster Reconstruction Ordinance	No	-	-	-	-
<i>Comment:</i>					
Other: Steep Slope Ordinance	Yes, 10/24/96, Ord. 12-96	Local	-	Yes	-
<i>Comment: Enforced by Land Use Bd., Chapter 170, Section 170-5; Steep slope.</i>					
Planning Documents					
Master Plan	Yes	Local	Yes County: Yes	No	No
<i>Comment: Per NJS A: Yes, if planning board (40:55D-28) and must be re-examined every ten years (40:55D-89.1); County: Yes (40:27-2). Enforced by the Land Use Bd., 1995. Re-examined 2002, 2008, 2018.</i>					
Capital Improvement Plan	Yes	Local	Allowed	No	No
<i>Comment: Per NJS A 40:55D-29) the governing body is authorized to direct the planning board to prepare a CIP with at least a six year planning horizon. Enforced by Gov. Body.</i>					
Disaster Debris Management Plan	No	-	No	No	No
<i>Comment:</i>					
Floodplain or Watershed Plan	No	-	No	No	No
<i>Comment: U.S. Army Corps of Engineers Regulatory Program Regulations (33 CFR 320-332)</i>					
Stormwater Management Plan	Yes, 4/13/06, Ord. 04-06	Local	Yes	No	No
<i>Comment: Per NJDEP Storm Water Management Rule (N.J.A.C. 7:8, et seq.). The Municipal Stormwater Regulation Program was developed in response to the U. S. Environmental Protection Agency's (USEPA) Phase II rules published in December 1999. The Department issued final stormwater rules on February 2, 2004 and four (4) NJPDES general permits authorizing stormwater discharges from Tier A and Tier B municipalities, as well as public complexes, and highway agencies that discharge stormwater from municipal separate storm sewers (MS4s). Enforced by Land Use Bd., Chapter 170, Sections 170-36 – 170-36.10; Stormwater control.</i>					
Stormwater Pollution Prevention Plan	No	Local, State	Yes	No	No
<i>Comment: Per NJDEP Storm Water Management Rule (N.J.A.C. 7:8, et seq.). The Municipal Stormwater Regulation Program was developed in response to the U. S. Environmental Protection Agency's (USEPA) Phase II rules published in December 1999. The Department issued final stormwater rules on February 2, 2004 and four (4) NJPDES general permits authorizing stormwater discharges from Tier A and Tier B municipalities, as well as public complexes, and highway agencies that discharge stormwater from municipal separate storm sewers (MS4s).</i>					
Urban Water Management Plan	No	-	No	No	No
<i>Comment:</i>					
Habitat Conservation Plan	No	-	No	No	No
<i>Comment: May develop a conservation plan element in master plan per NJS A 40:5D-28b (8).</i>					
Economic Development Plan	No	-	No	No	No





Legal and Regulatory Capability					
	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated/Allowed	Has this been integrated? If yes- how? If no - can it be a mitigation action? If yes, add Mitigation Action #.	
<i>Comment: Per NJS 40:55D-28b. (9) There can be a generic Economic Development Element of the County Comprehensive Plan. Municipality can establish Economic Development Commission that can facilitate incentive programs (façade programs, low-interest loans, etc.)</i>					
Shoreline Management Plan	No	-	No	No	No
<i>Comment:</i>					
Community Wildfire Protection Plan	No	-	No	No	No
<i>Comment:</i>					
Community Forest Management Plan	No	-	No	No	No
<i>Comment: Optional accreditation for county and municipalities for reduction of liability, New Jersey Urban and Community Forestry Program (NJUCF).</i>					
Transportation Plan	No	-	No	No	No
<i>Comment: May develop a circulation plan element in master plan per NJS 40:55D-28b. (4).</i>					
Agriculture Plan	No	-	No	No	No
<i>Comment: May develop a farmland preservation plan element per NJS 40:5D-28b (13).</i>					
Climate Action Plan	No	-	No	No	No
<i>Comment: May develop a green building and environmental sustainability plan element per NJS 40:5D-28b (16).</i>					
Tourism Plan	No	-	No	No	No
<i>Comment:</i>					
Business Development Plan	No	-	No	No	No
<i>Comment:</i>					
Other: Shade Tree commission	No	-	Allowed	No	No
<i>Comment: 40:37-5. Powers; regulations; trees on highways; parks: Except as hereinafter provided, the shade tree commission may exercise exclusive control over the regulation, planting and care of shade and ornamental trees and shrubbery now situate or which may hereafter be planted in any public highway, park or parkway of the county, including: a. The planting, trimming, spraying, care and protection thereof; b. The regulation and control of the use of the ground surrounding the same so far as may be necessary for their proper growth, care and protection; c. The moving or requiring the removal of any tree or part thereof, dangerous to public safety; d. The care and control of the parks and parkways; e. The encouragement of arboriculture. Amended by L.1958, c. 41, p. 132, s. 2, eff. May 20, 1958.</i>					
Other - Historic Preservation	No	-	Allowed	No	No
<i>Comment: 40:32-6. Acquisition and preservation of historical buildings and data - Any county may acquire, by gift or purchase, any real estate or any interests therein, together with any and all buildings thereon within the limits of the county for historical purposes, or for the purpose of preserving therein or thereon historical data and objects of historical interest.</i>					
Response/Recovery Planning					
Emergency Operations Plan (EOP)	No	-	Yes	No	No
<i>Comment: Per the NJ Civilian Defense and Disaster Control Act (App.A:9_43.2) Counties and municipalities must have written Emergency Operations Plans to be reviewed every 2 years.</i>					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	No	No	No
<i>Comment:</i>					



Legal and Regulatory Capability					
	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated/Allowed	Has this been integrated? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Post-Disaster Recovery Plan	No	-	No	No	No
<i>Comment:</i>					
Continuity of Operations Plan	No	-	No	No	No
<i>Comment:</i>					
Public Health Plan	No	-	Yes/No	No	No
<i>Comment:</i>					
Other	No	-	Yes/No	No	No
<i>Comment:</i>					

Table 9.35-4. Development and Permitting Capability

Criterion	Response
Does your jurisdiction issue development permits? - If no, who does? If yes, which department?	Yes Construction
Does your jurisdiction have the ability to track permits by hazard area?	Yes
Does your jurisdiction have a buildable lands inventory? -If yes, please describe briefly. -If no, please quantitatively describe the level of buildout in the jurisdiction.	No Borough is 95% built out

ADMINISTRATIVE AND TECHNICAL CAPABILITY

The table below summarizes potential staff and personnel resources available to the Borough of Rockaway.

Table 9.35-5. Administrative and Technical Capabilities

Staff/Personnel Resource	Available?	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Borough Engineer/Borough Planner
Mitigation Planning Committee	No	-
Environmental Board / Commission	Yes	Environmental Advisory Committee – 3 Volunteers
Open Space Board / Committee	No	-
Economic Development Commission / Committee	No	-
Warning Systems / Services (reverse 911, outdoor warning signals)	Yes	Alert Morris
Maintenance program to reduce risk	No	-
Mutual aid agreements	Yes	Police and Fire Depts.
Technical/Staffing Capability		





Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Borough Engineer/Borough Planner
Engineers or professionals trained in building or infrastructure construction practices	Yes	Borough Engineer
Planners or engineers with an understanding of natural hazards	Yes	Borough Engineer
Staff with training in benefit/cost analysis	Yes	Borough Engineer
Staff with training in green infrastructure	No	-
Staff with education/knowledge/training in low impact development	No	-
Surveyor	Yes	Borough Engineer
Stormwater engineer	No	-
Personnel skilled or trained in GIS applications	Yes	Borough Engineer
Local or state water quality professional	Yes	Water Department
Scientist familiar with natural hazards in local area	No	-
Emergency manager	Yes	Police Chief/OEM Coordinator
Watershed planner	No	-
Environmental specialist	No	-
Grant writers	Yes	Borough Engineer
Resilience Officer	No	-
Other	No	-

FISCAL CAPABILITY

The table below summarizes financial resources available to the Borough of Rockaway.

Table 9.35-6. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes – Engineer/Finance
Capital Improvements Project Funding	Yes – Finance
Authority to Levy Taxes for Specific Purposes	Yes – Finance
User Fees for Water, Sewer, Gas or Electric Service	Yes – Water Dept. collects fees set by Governing Body
Incur Debt through General Obligation Bonds	Yes – Finance
Incur Debt through Special Tax Bonds	Yes – Finance
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes – Engineer/Finance
Development Impact Fees for Homebuyers or Developers	Yes
Clean Water Act 319 Grants (Nonpoint Source Pollution)	No
Other	No

EDUCATION AND OUTREACH CAPABILITY

The table below summarizes the education and outreach resources available to the Borough of Rockaway.



Table 9.35-7. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	No
Do you have hazard mitigation information available on your website? • If yes, briefly describe.	Yes. Link to OEM website. https://www.rockawayborough.org/departments/oem/
Do you use social media for hazard mitigation education and outreach? • If yes, briefly describe.	Yes. Facebook
Do you have any citizen boards or commissions that address issues related to hazard mitigation? • If yes, briefly describe.	Yes. Environmental Commission.
Do you have any other programs already in place that could be used to communicate hazard-related information? • If yes, briefly describe.	Borough website, tax mailing, water bill, sewer bill
Do you have any established warning systems for hazard events? • If yes, briefly describe.	Yes. AlertMorris

COMMUNITY CLASSIFICATIONS

The table below summarizes the classifications for community programs available to the Borough of Rockaway.

Table 9.35-8. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System	No		
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (Fire ISO Protection Class)	Yes	4	1995
Storm Ready Certification	No		
Firewise Community Classification	No		

ADAPTIVE CAPACITY

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2014). In other words, it describes a jurisdiction’s current ability to adjust to, protect from, or withstand a hazard event. This term is often discussed in reference to climate change; however, adaptive capacity also includes an understanding of local capacity for adapting to current and future risks and changing conditions.

The municipality does not have access to resources to determine the possible impacts of climate change upon the municipality. The administration is supportive of integrating climate change in policies or actions. Climate change is not integrated into current policies/plans or actions (projects/monitoring) within the municipality.

The table below summarizes the adaptive capacity for each hazard and the jurisdiction’s rating.

Table 9.35-9. Adaptive Capacity

Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low
Dam Failure	High
Disease Outbreak	Medium
Drought	Medium





Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low
Earthquake	Medium
Extreme Temperature	Medium
Flood	Medium
Geological Hazards	Low
Harmful Algal Bloom	Low
Hazardous Materials	Medium
Infestations	Medium
Severe Weather	Medium
Severe Winter Weather	Medium
Wildfire	Low

NATIONAL FLOOD INSURANCE PROGRAM

This section provides specific information on the management and regulation of the regulatory floodplain.

Table 9.35-10. National Flood Insurance Program Compliance

Criterion	Response
What local department is responsible for floodplain management?	Engineering
Who is your floodplain administrator? (name, department/position)	Engineer
Are any certified floodplain managers on staff in your jurisdiction?	Engineer
What is the date that your flood damage prevention ordinance was last amended?	02/26/2015
Does your floodplain management program meet or exceed minimum requirements? <ul style="list-style-type: none"> If exceeds, in what ways? 	Meet
When was the most recent Community Assistance Visit or Community Assistance Contact?	11/05/1992
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <ul style="list-style-type: none"> If so, state what they are. 	No
Are any RiskMAP projects currently underway in your jurisdiction? <ul style="list-style-type: none"> If so, state what they are. 	County
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <ul style="list-style-type: none"> If no, state why. 	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program?	No
<input type="checkbox"/> If so, what type of assistance/training is needed?	n/a
Does your jurisdiction participate in the Community Rating System (CRS)? <ul style="list-style-type: none"> If yes, is your jurisdiction interested in improving its CRS Classification? If no, is your jurisdiction interested in joining the CRS program? 	No
How many flood insurance policies are in force in your jurisdiction?*	47
<ul style="list-style-type: none"> What is the insurance in force? What is the premium in force? 	\$13,218,800 \$113,453
How many total loss claims have been filed in your jurisdiction?*	84
<ul style="list-style-type: none"> How many claims are still open or were closed without payment? What were the total payments for losses? 	11 \$1,463,817
Do you maintain a list of properties that have been damaged by flooding?	No
Do you maintain a list of property owners interested in flood mitigation?	No





*According to FEMA statistics as of 2018

ADDITIONAL AREAS OF EXISTING INTEGRATION

In the performance period since adoption of the 2015 HMP, the Borough of Rockaway made progress on integrating hazard mitigation into other initiatives. The following plans and programs currently integrate components of the HMP and strategy:

- The Borough designated Rockaway Borough Library at 82 E Main St as a heating and cooling facility.
- The Borough designated Community Center at 21-25 Union Street as a heating and cooling facility.
- The Borough developed an Action Plan for disease outbreak with the Randolph Health Department that is included as an annex to the EOP.

9.35.5 Hazard Event History Specific to the Jurisdiction

Morris County has a history of hazard events, as detailed in Section 4 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles in Section 4.4 (Hazard Profiles) and includes a chronology of events that affected Morris County and its jurisdictions. The Borough of Rockaway’s history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Morris County. Table 9.35-11 provides details regarding municipal-specific loss and damages the Borough of Rockaway experienced during hazard events. Information provided in the table below is based on reference material or local sources.

Table 9.35-11. Hazard Event History

Date(s) of Event	Event Type (disaster declaration if applicable)	Morris County Designated?	Summary of Event	Summary of Local Damages and Losses
January 21-24, 2016	Severe Winter Storm and Snowstorm (DR-4264)	Yes	A low-pressure system tracked across the Gulf States before intensifying along the Carolina coast into a major nor'easter, producing record snowfall in parts of New Jersey on January 23rd. It then moved out to sea after passing by the mid-Atlantic coast early on January 24th. Wind gusts up to 60 MPH produced blizzard conditions as visibilities dropped to one-quarter mile or less in spots.	Total loss: \$42,430.57 Received from FEMA: \$31,822.93
March 6-7, 2018	Severe Winter Storm and Snowstorm (DR-4368)	Yes	Precipitation gradually overspread the region during the overnight hours of March 6th to the 7th. 12 to 24 inches were observed across large parts of Morris County. The snow contained large amounts of liquid, making it heavy and wet. This resulted in downed trees, limbs,	Total loss: 35,626.12 Received from FEMA: none



Date(s) of Event	Event Type (disaster declaration if applicable)	Morris County Designated?	Summary of Event	Summary of Local Damages and Losses
			and wires, leading to numerous power outages across portions of New Jersey, especially where the heaviest snow was reported.	

9.35.6 Jurisdiction-Specific Vulnerabilities and Hazard ranking

The hazard profiles in Section 4 (Risk Assessment) provide detailed information regarding each plan participant’s vulnerability to the identified hazards. Table 9.35-12 summarizes the Borough of Rockaway’s risk assessment results and data used to determine the hazard ranking.

A gradient of certainty was developed to summarize the confidence level regarding the input used to populate the hazard ranking. A certainty factor of high, medium or low was selected and assigned to each hazard to provide a level of transparency and create increased understanding of the data used to support the resulting ranking. The following scale was used to assign a certainty factor to each hazard:

- High—Defined scenario/event to evaluate; probability calculated; evidenced-based/quantitative assessment to estimate potential impacts through hazard modeling.
- Moderate—Defined scenario/event or only a hazard area to evaluate; estimated probability; combination of quantitative (exposure analysis, no hazard modeling) and qualitative data to estimate potential impacts.
- Low—Scenario or hazard area is undefined; there is a degree of uncertainty regarding event probability; majority of potential impacts are qualitative.



Table 9.35-12. Summary of Risk Assessment Results

Hazard of Concern	Hazard/ Scenario Area Evaluated	Population		Buildings		Economy (Loss)		Certainty Factor
Dam Failure	Partial or complete failure of a dam There are 2 dams in the Borough, according to NJDEP.	Population impacted is dependent on the capacity of the dam, the extent of the dam failure inundation area and the severity of the failure.		The number of building impacted is dependent on the capacity of the dam, the extent of the dam failure inundation area and the severity of the failure.		Economic impacts include dam/building/infrastructure repairs; debris removal/disposal; utility impacts.		Low
Disease Outbreak	Disease Outbreaks which include: Mosquito-Borne Diseases, Tick-Borne Diseases, Campylobacteriosis, Influenza, Mumps, Ebola	Population impacted is dependent on the disease and severity of the outbreak; in some cases immunocompromised persons are more vulnerable.		Structural impacts due to disease outbreak would be limited.		Economic losses can include County financial impacts to monitor/address outbreaks; lost wages or commercial interruptions; depends on the severity and type of disease outbreak.		Low
Drought	Prolonged drought event - The County is serviced by water supplies who primarily get water from groundwater sources; some surface water sources.	Entire population exposed. Population on surface water supplies may be impacted first; water restrictions/contamination; increased wildfire risk.		Droughts are not expected to cause direct damage to buildings.		Losses include aesthetic, landscape/nursery/agricultural industry impacts.		Low
Earthquake	"100, 500-, 2,500-Year Mean Return Period (MRP) Events evaluated NEHRP Soils D&E (soft soils that amplify ground shaking are present in the County"	NEHRP D&E:	1,685	NEHRP D&E:	851	100-year Loss:	\$0	High
		Liquefaction Class 4:	12	Liquefaction Class 4:	18	500-year Loss:	\$1,375,443	
						2,500-year Loss:	\$20,856,336	
Extreme Temperature	Extreme temperature event (heat or cold)	Over 65 Population:	1,258	Physical impacts due to extreme temperatures would be limited.		Loss of business function is possible due to unexpected repairs (i.e. pipes bursting) or power failures.		Low
		Population Below Poverty Level:	220					
Flood	100- and 500-Year Mean Return Period Event	100-year	94	100-year	65	100-year Loss:	\$79,799,573	High
		500-year	260	500-year	137			
Geological	High Landslide Susceptibility Areas and Areas developed over carbonate rock	Class A:	0	Class A:	0	Class A:	0	Moderate
		Class B:	0	Class B:	0	Class B:	\$0	
		Carbonate Bedrock:	0	Carbonate Bedrock:	0	Carbonate Bedrock:	\$0	





Hazard of Concern	Hazard/ Scenario Area Evaluated	Population		Buildings		Economy (Loss)		Certainty Factor
Harmful Algal Bloom	Any body of water or area adjacent that is susceptible to harmful algal bloom.	Population in contact (e.g., swimming) or drinking water from surface water impacted can result in a range of health effects		General building stock impacts due to harmful algal bloom are not anticipated. Critical facilities (i.e., water treatment plants) could lead to plant closures.		Economic impacts range from recreational closure of impacted waterbodies; cost to sample/monitor/remediate.		Low
Hazardous Substance	Release of a hazardous substance from a fixed site.	Population impacted will depend on the type of material and scale of the incident. May include population within small radii of site.		The degree of damages to a building depends on the scale of the incident.		The degree of damages depends on the scale of the incident.		Low
Infestation	Infestation including: Insects [e.g. Gypsy Moth, Mosquitoes, Spotted Lanternfly, Emerald Ash Borer], White-Tailed Deer, Rodents	Population impacted will depend on the type and severity of infestation and may cause an increased risk for disease outbreak.		Physical impacts will be limited to indirect impacts from invasive species which affect crops and vegetation.		Economic impact will depend on the type and severity of infestation and may cause an increased risk for disease outbreak.		Low
Severe Weather	Severe Weather Event	Entire population exposed; The degree of impact to the population depends on the scale of the incident.		Entire building stock is exposed; The degree of impact depends on the scale of the incident.		Annualized Loss:	\$17,814	High
						100 -Year Loss:	\$410,675	
						500-year Loss:	\$2,376,893	
Severe Winter Weather	Severe Winter Weather Event	All residents/commuters/visitors are exposed; socially-vulnerable populations may be at increased risk.		All buildings are exposed; the degree of impact depends on the scale of the incident.		The cost of snow and ice removal and repair of roads/infrastructure can impact operating budgets.		Low
Wildfire	Wildfire Fuel Hazard areas (High, Very High, Extreme)	Wildfire:	0	Wildfire:	0	Wildfire:	\$0	Moderate





REPETITIVE FLOOD LOSSES

The following summarizes the repetitive and severe repetitive flood losses in the Borough of Rockaway.

- Number of repetitive loss (RL) properties: 9
- Number of severe repetitive loss (SRL) properties: 0
- Number of RL/SRL properties that have been mitigated: 0

Note: RL and SRL as of 03/31/2019; SRL includes SRL properties that have been verified only (SRL_Indicator = V).

CRITICAL FACILITIES

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain.

Table 9.35-13. Potential Flood Losses to Critical Facilities and Lifelines

Name	Type	Exposure		Status of Mitigation
		1% Event	0.2% Event	
McWilliams Forge Co. Inc	Hazardous Material	X	X	2020-Rockaway B-006
Weldon Asphalt	Potable Water Facility	X	X	2020-Rockaway B-005
Well #1	Well		X	2020-Rockaway B-004
Well #6	Well		X	2020-Rockaway B-004

* Identified lifeline

ADDITIONAL IDENTIFIED VULNERABILITIES

The jurisdiction has identified the following vulnerabilities within their community:

- Property of off West Main Street near Nichols Drive is prone to flooding
- The corner of Drake Ave and Ogden Ave is prone to flooding.
- Rockaway Ave near Watson Street is prone to flooding.
- Fox Lake dam needs repair.

HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps were generated for the Borough of Rockaway that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Borough of Rockaway has significant exposure. Refer to Figures 9.35-1 and 9.35-2.

HAZARD RANKING

This section includes the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment). The ranking process involves an assessment of the likelihood of occurrence for each hazard; its potential impacts on people, property, and the economy; community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.



As discussed in Section 4.3 (Hazard Ranking), each plan participant may have differing degrees of risk exposure and vulnerability compared to Morris County as a whole. Therefore, each jurisdiction ranked the degree of risk to each hazard as it pertains to their community factoring in their capabilities to withstand impacts and rebound after the event. The table below summarizes the hazard rankings of potential natural hazards for the Borough of Rockaway. The Borough of Rockaway has reviewed the Morris County hazard ranking table, as well as its individual results, to reflect the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the Borough of Rockaway increased the ranking for Dam Failure from Medium to High.

Table 9.35-14. Borough of Rockaway Hazard Ranking Input

Dam Failure	Disease Outbreak	Drought	Earthquake	Extreme Temperature	Flood	Geological Hazard
High	High	Medium	Medium	Medium	Medium	Low

Harmful Algal Bloom	Hazardous Substances	Infestation	Severe Weather	Severe Winter Weather	Wildfire
Low	High	Medium	High	High	Low

9.35.7 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and provides action prioritization.

PAST MITIGATION INITIATIVE STATUS

The following table summarizes the jurisdiction’s progress on their mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and can also be found under ‘Capability Assessment’ presented previously in this annex.

Table 9.35-15. Status of Previous HMP Mitigation Actions

2015 Action Number Action Description	Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update?	
			Check if Yes	Enter 2020 HMP Action #
RB 1 - Permanent backup power (generator) for Police Headquarters building.	Douglas Scheer, Chief	Complete	-	-
RB 2 - Permanent backup power (generator) for Main Street Pumping Station.	Douglas Scheer, Chief	Complete	-	-
RB 3 - Fox Lake Dam reconstruction with new spillway, low flow outlet, seepage protection and armoring of side slopes	Douglas Scheer, Chief	In Progress		2020-Rockaway B-001



2015 Action Number Action Description	Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update?	
			Check if Yes	Enter 2020 HMP Action #
RB 4 - Elevate utilities out of 12 flood prone properties along Ogden Avenue.	Douglas Scheer, Chief	No Progress. Not a priority to implement at this time.	X	2020-Rockaway B-007

The Borough of Rockaway did not identify mitigation projects that were completed but not identified in the 2015 HMP mitigation strategy.

PROPOSED HAZARD MITIGATION INITIATIVES FOR THE PLAN UPDATE

The Borough of Rockaway participated in a risk assessment workshop in November 2019 in which detailed information was provided about assets exposed and vulnerable to the identified hazards of concern. The Borough of Rockaway participated in a mitigation action workshop in March 2020 and was provided a Mitigation Toolbox that included a mitigation catalog developed specifically for Morris County and its hazards of concerns; challenges and opportunities identified during the capability and risk assessments; and the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 *Selecting Appropriate Mitigation Measures for Floodprone Structures* (March 2007) and FEMA *Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards* (January 2013). Section 6 (Mitigation Strategy) and Appendix F (Mitigation Strategy Supplement) provide a more complete description of the Mitigation Toolbox and its resources.

Table 9.35-16 summarizes the comprehensive range of specific mitigation initiatives the Borough of Rockaway would like to pursue in the future to reduce the effects of hazards. Some of these initiatives might be previous actions carried forward for this HMP update. Initiatives are dependent upon available funding (grants and local match availability) and can be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide range of activities and mitigation measures selected.

As discussed in Section 6 (Mitigation Strategy), 14 criteria were used to evaluate each action, including an evaluation of the benefits and costs. For each new mitigation action, a numeric rank was assigned (-1, 0, or 1) for each of the 14 evaluation criteria. The results of this evaluation, in addition to input from the jurisdiction, were then used to prioritize the mitigation initiatives as ‘High’, ‘Medium’, or ‘Low.’ Table 9.35-17 summarizes the evaluation of each mitigation initiative and the resulting priority, listed by Action Number.



Table 9.35-16. Proposed Hazard Mitigation Initiatives and Associated Priority

Initiative Number	Mitigation Initiative Name	Description of the Problem	Description of the Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
2020-Rockaway B-001	Fox Lake Dam	Fox Lake Dam needs repair.	Reconstruct Fox Lake Dam with a new spillway, low flow outlet, seepage protection, and armoring of side slopes. This dam was last inspected 10/15/19 and EOP updated 10/25/19.	Existing	Flood, Severe Storm, Severe Winter Weather	1, 4	Engineering	Capital budget, PDM, HMGP	High	High	Medium	High	SIP	PP, SP
2020-Rockaway B-002	Corner of Drake and Ogden Avenues	Area is subject to flooding.	Perform engineering study to determine source of flooding and recommend mitigation actions.	New	Flood, Severe Storm, Severe Winter Weather	1, 4	Engineering	Capital budget, PDM, HMGP	Medium	High	Medium	Medium	SIP, NSP	PP
2020-Rockaway B-003	West Main Street	Area is subject to flooding on roadway.	Perform engineering study to determine source of flooding and recommend mitigation actions.	New	Flood, Severe Storm, Severe Winter Weather	1, 4	Engineering	Capital budget, PDM, HMGP	High	High	Medium	High	SIP	PP
2020-Rockaway B-004	Wells 1 and 6	Wells #1 and #6 are critical infrastructure in the floodplain. Both have connections to portable backup generators.	Determine mitigation strategies, if any, to secure the wells during events.	Existing	Flood, Severe Storm, Severe Winter Weather	1, 4	Engineering	Capital budget, PDM, HMGP	Medium	Medium	Medium	Medium	SIP	PP



Initiative Number	Mitigation Initiative Name	Description of the Problem	Description of the Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
2020-Rockaway B-005	Weldon Asphalt	Weldon Asphalt is a critical facility in the floodplain.	Notify the owner of Weldon Asphalt that the area of Franklin Ave is in the floodplain.	Existing	Flood, Severe Storm, Severe Winter Weather	1, 2	Engineering	Operating budget	Medium	Low	Short	Low	EAP	PI, PP
2020-Rockaway B-006	McWilliams Forge Co.	McWilliams Forge is a critical facility in the floodplain.	Notify the owner of McWilliams Forge that the area of Franklin Ave is in the floodplain.	Existing	Flood, Severe Storm, Severe Winter Weather	1, 2	Engineering	Operating budget	Medium	Low	Short	Low	EAP	PI, PP
2020-Rockaway B-007	Repetitive loss properties	Nine properties have repetitive losses. Many are single family homes in the Rockaway River Floodplain.	Educate the owners of the RL property that the property is identified as RL and the status of the property location within or outside the floodplain. Provide them with mitigation options and apply for grant funding if needed to implement actions.	Existing	Flood, Severe Storm, Severe Winter Weather	1, 5	Engineering	Operating budget	Medium	Low	Short	Medium	EAP	PI, PP

Notes:

Acronyms and Abbreviations:

CAV Community Assistance Visit
 CRS Community Rating System
 DPW Department of Public Works
 FEMA Federal Emergency Management Agency
 FPA Floodplain Administrator
 HMA Hazard Mitigation Assistance

Potential FEMA HMA Funding Sources:

FMA Flood Mitigation Assistance Grant Program
 HMGP Hazard Mitigation Grant Program
 PDM Pre-Disaster Mitigation Grant Program

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:





N/A Not applicable
 NFIP National Flood Insurance Program
 OEM Office of Emergency Management

A description of the estimated benefits, either quantitative and/or qualitative.

Mitigation Category:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- Natural Systems Protection (NSP) – These are actions that minimize damage and losses and preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.

CRS Category:

- Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
- Natural Resource Protection (NR) - Actions that minimize hazard loss and preserve or restore the functions of natural systems. Actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.
- Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.

Table 9.35-17. Summary of Evaluation and Action Priority

Initiative Number	Mitigation Initiative Name	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2020-Rockaway B-001	Fox Lake Dam	1	1	0	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Rockaway B-002	Corner of Drake and Ogden Avenues	1	1	1	0	0	0	0	0	1	0	1	1	1	1	8	Medium
2020-Rockaway B-003	West Main Street	1	1	0	1	1	1	1	0	1	0	1	0	0	1	9	High



Initiative Number	Mitigation Initiative Name	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2020-Rockaway B-004	Wells 1 and 6	1	1	1	1	0	1	0	0	0	0	0	0	0	0	5	Medium
2020-Rockaway B-005	Weldon Asphalt	1	1	0	0	0	1	0	0	0	0	0	0	0	0	3	Low
2020-Rockaway B-006	McWilliams Forge Co.	1	1	0	0	0	1	0	0	0	0	0	0	0	0	3	Low
2020-Rockaway B-007	Repetitive loss properties	1	1	1	1	1	1	1	0	1	0	0	0	0	0	8	Medium

Notes: Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions.



Table 9.35-18. Analysis of Mitigation Actions by Hazard and Category

Hazard	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
Dam Failure	Rockaway B-001	2020-Rockaway B-001	Rockaway B-001	Rockaway B-001	Rockaway B-001	Rockaway B-001	Rockaway B-001	Rockaway B-001
Disease Outbreak	-	-	-	-	-	-	-	-
Drought	-	-	-	-	-	-	-	-
Earthquake	-	-	-	-	-	-	-	-
Extreme Temperature	-	-	-	-	-	-	-	-
Flood	-	Rockaway B-001, Rockaway B-002, Rockaway B-003, Rockaway B-004, Rockaway B-005, Rockaway B-006, Rockaway B-007	Rockaway B-005, Rockaway B-006, Rockaway B-007	-	Rockaway B-001, Rockaway B-002, Rockaway B-003, Rockaway B-004	Rockaway B-001, Rockaway B-002, Rockaway B-003, Rockaway B-004	Rockaway B-001, Rockaway B-002, Rockaway B-003, Rockaway B-004	-
Geological	-	-	-	-	-	-	-	-
Harmful Algal Bloom	-	-	-	-	-	-	-	-
Hazardous Substance	-	-	-	-	-	-	-	-
Infestation	-	-	-	-	-	-	-	-
Severe Weather	-	Rockaway B-001	Rockaway B-005, Rockaway B-006, Rockaway B-007	-	-	-	-	-
Severe Winter Weather	-	Rockaway B-001	Rockaway B-005, Rockaway B-006, Rockaway B-007	-	-	-	-	-
Wildfire	-	-	-	-	-	-	-	-

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

- RED** = high ranked hazard
- ORANGE** = medium ranked hazard
- YELLOW** = low ranked hazard

9.35.8 Staff and Local Stakeholder Involvement in Annex Development

The Borough of Rockaway followed the planning process described in Section 2 (Planning Process). This annex was developed over the course of several months with input from many jurisdiction representatives. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization. The following table summarizes who participated and in what capacity. Additional documentation on the municipality’s planning process through Planning Partnership meetings is included in Section 2 (Planning Process) and Appendix C (Meeting Documentation).



Table 9.35-19. Contributors to the Annex

Entity	Title	Method of Participation
Conrad Pepperman	Chief/OEM Director	Attended 1 st Annex Meeting on 10/7/2019, 2 nd Annex Meeting on 3/3/2020



Figure 9.35-1. Borough of Rockaway Hazard Area Extent and Location Map 1

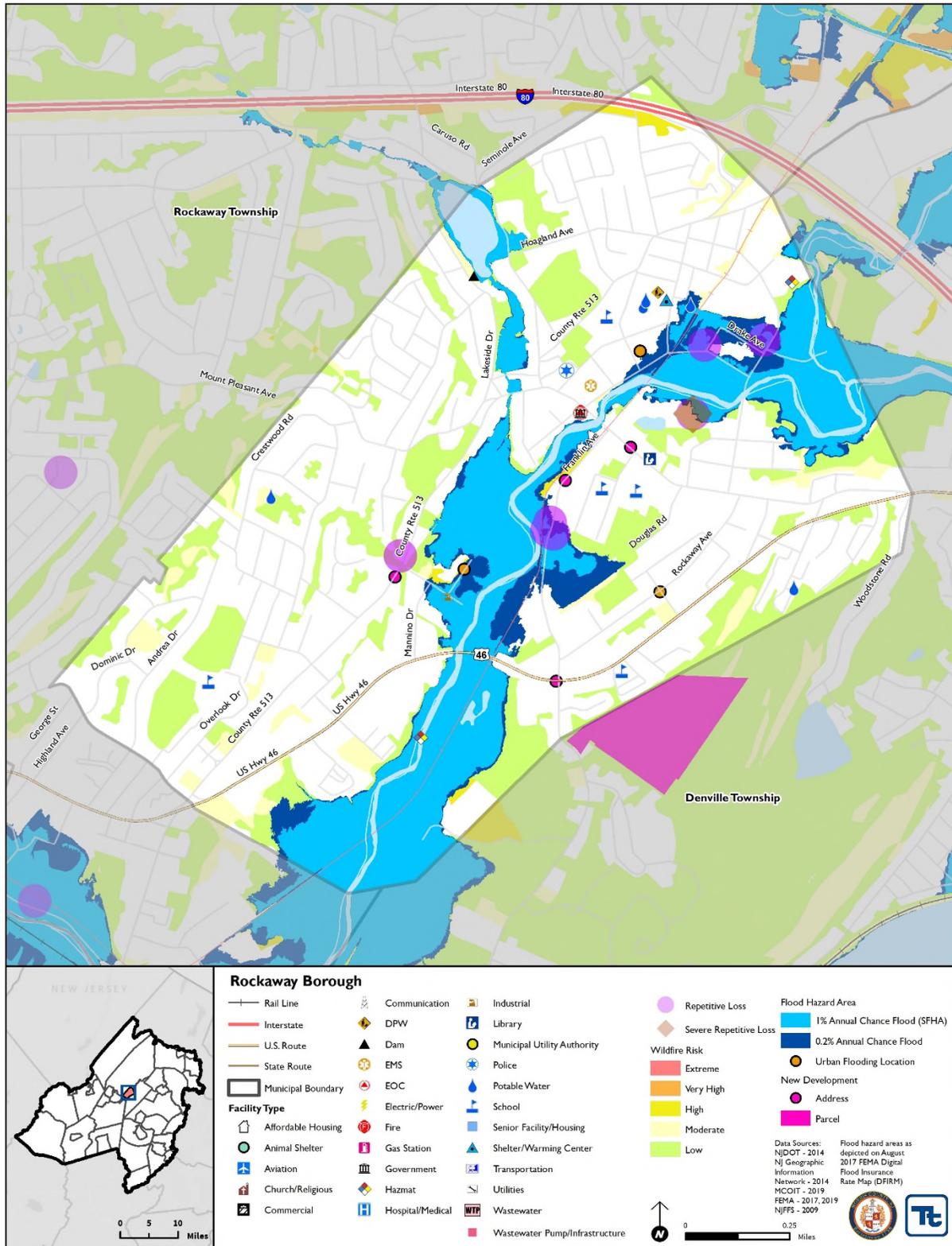
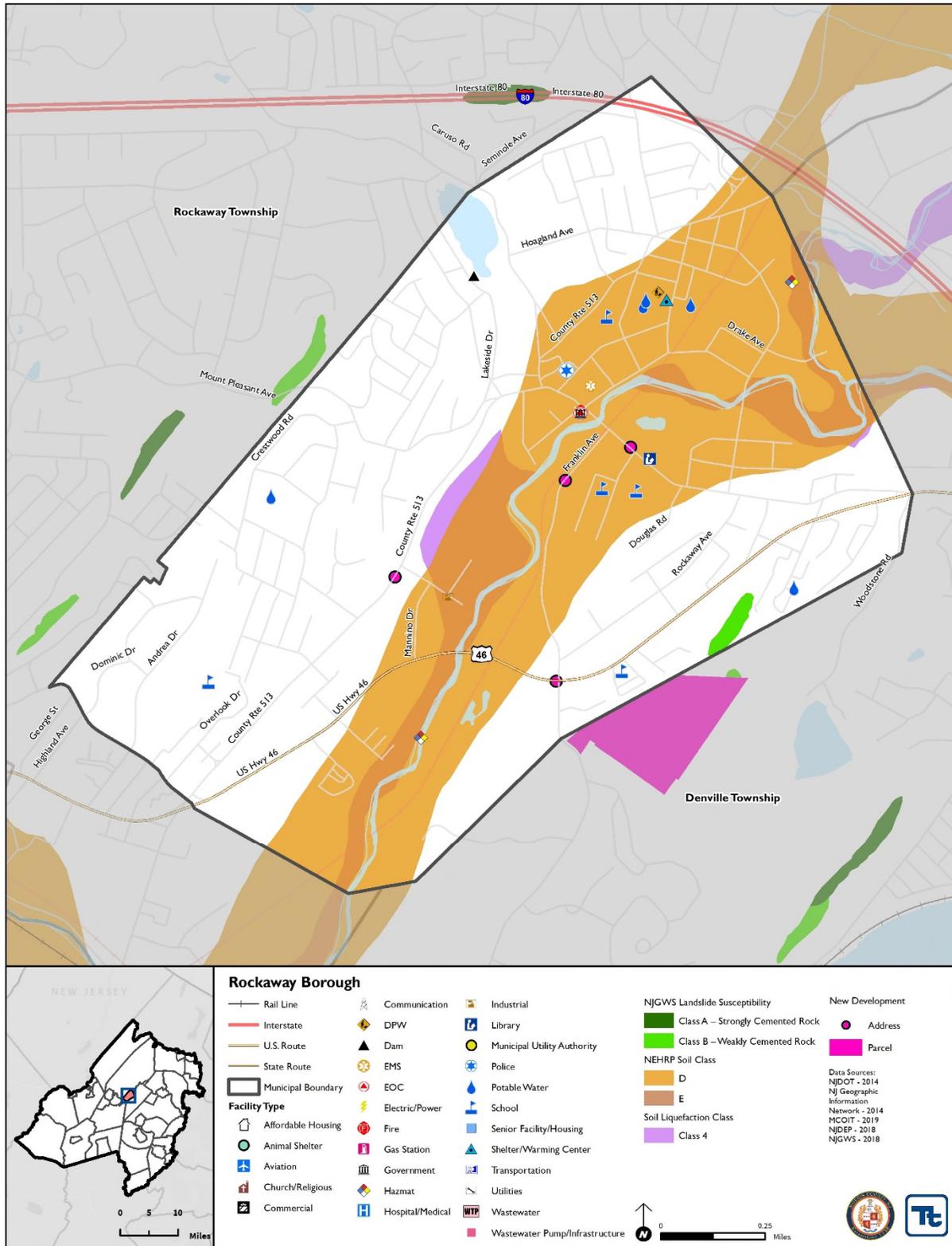




Figure 9.35-2. Borough of Rockaway Hazard Area Extent and Location Map 2





Name of Jurisdiction: Rockaway Borough
 Name and Title Completing Worksheet: Chief Conrad Pepperman, OEM Director

Action Worksheet			
Project Name:	Fox Lake Dam		
Project Number:	Rockaway B-001		
Risk / Vulnerability			
Hazard(s) of Concern:	Dam Failure, Flooding		
Description of the Problem:	Dan was certified as unsafe conditions.		
Action or Project Intended for Implementation			
Description of the Solution:	Retrofit dam with new spillway, seepage protection and armoring of side slopes.		
Is this project related to a Critical Facility or Lifeline?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Level of Protection:	High	Estimated Benefits (losses avoided):	High
Useful Life:	n/a	Goals Met:	1, 4
Estimated Cost:	High	Mitigation Action Type:	SIP
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Short
Estimated Time Required for Project Implementation:	Long	Potential Funding Sources:	HMGP, PDM
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Retrofit dam	Medium	Provides protection
	Reroute waterway	High	Dam provides recreation and flood protection.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Name of Jurisdiction: Rockaway Borough
Name and Title Completing Worksheet: Chief Conrad Pepperman, OEM Director

Action Worksheet		
Project Name:	Fox Lake Dam	
Project Number:	Rockaway B-001	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	1	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	14	
Priority (High/Med/Low)	High	



Name of Jurisdiction: Rockaway Borough
 Name and Title Completing Worksheet: Chief Conrad Pepperman, OEM Director

Action Worksheet			
Project Name:	Drake and Ogden Ave		
Project Number:	Rockaway B-002		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm, Severe Winter Weather		
Description of the Problem:	Homes and streets are affected by stormwater.		
Action or Project Intended for Implementation			
Description of the Solution:	Perform engineering study to determine source of flooding and recommend mitigation actions.		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	High	Estimated Benefits (losses avoided):	High
Useful Life:	n/a	Goals Met:	1, 4
Estimated Cost:	TBD	Mitigation Action Type:	SIP
Plan for Implementation			
Prioritization:	Med	Desired Timeframe for Implementation:	Medium
Estimated Time Required for Project Implementation:	Long	Potential Funding Sources:	HMGP, PDM
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	n/a
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Perform engineering study	Medium	Will find effective solutions
	Relocate houses	High	Not cost effective
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Name of Jurisdiction: Rockaway Borough
Name and Title Completing Worksheet: Chief Conrad Pepperman, OEM Director

Action Worksheet		
Project Name:	Drake and Ogden Ave	
Project Number:	Rockaway B-002	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	0	
Political	0	
Legal	0	
Fiscal	0	
Environmental	0	
Social	1	
Administrative	0	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	8	
Priority (High/Med/Low)	Medium	